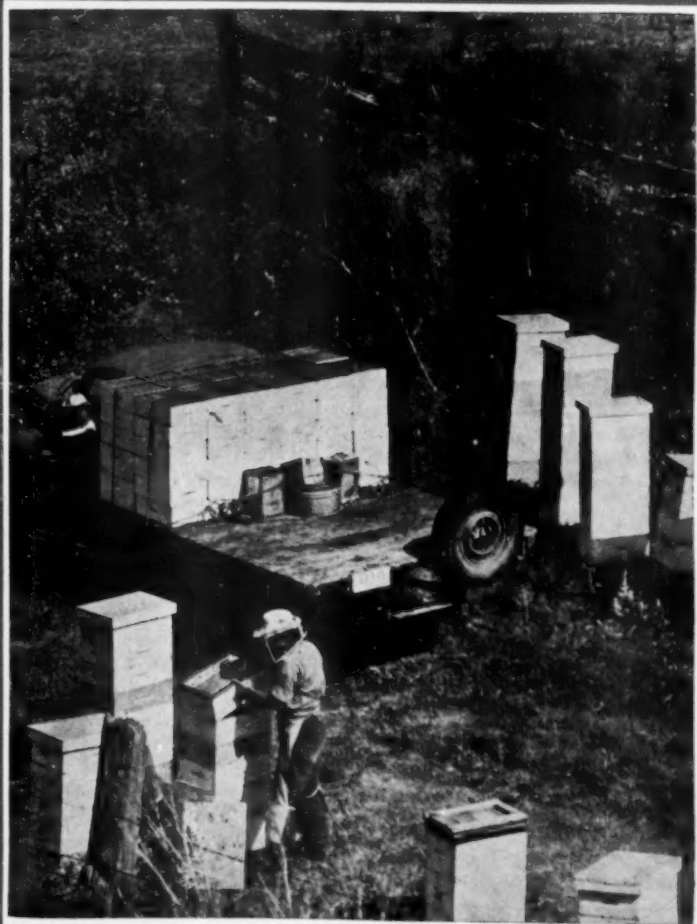


American



BEE JOURNAL



VOL. 92, NO. 1

JANUARY, 1982

EQUIPMENT
ROUND-UP

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THE AMERICAN BEE JOURNAL

HAMILTON, ILLINOIS

Editor — G. H. Cale

Associate Editors — M. G. Dadant, Roy A. Grout

Managing Editor — Adelaide Fraser

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PROGRAM

Pennsylvania State Beekeepers' Association 49th Annual Meeting

State Farm Show Building
Harrisburg, Pennsylvania

Tuesday Morning, January 15, 1952
9:30 to 11:45, Room E, Second Floor

Main Show Building
Chairman

Merle P. Fisher, President,
Granville, Pennsylvania

Invocation.

Address of Welcome: Hon. Miles
Horst, Secretary of Agriculture,
Harrisburg.

Report of Inspection Work in
Pennsylvania During 1951: Harry B.
Kirk, Bureau of Plant Industry,
Harrisburg.

Recent Developments in Bee Culture
Research: Prof Edwin J. Anderson,
State College, Pa.

A Chemist Looks at Honey: Dr.
J. W. White, Jr., Eastern Regional
Research Laboratory, Philadelphia,
Pa.

Tuesday Afternoon, January 15
1:30 to 4:00

Ways To Kill Honey Sales: Jere
Frazer, Chillicothe, Ohio.

Greetings from visiting beekeepers.

Report of Secretary-Treasurer: H.
M. Snively, Mount Pleasant, Pa.

President's Address: Merle P.
Fisher, Granville, Pa.

Election of Officers.
Business Session.

Tuesday Evening, January 15
Beekeepers' Banquet, 6:30

(Colonial Park Evangelical Reformed Church, Three Miles East of Harrisburg on North Side of Route 22, Watch for Sign.)

Toastmaster: Jere Frazer, Chillicothe, Ohio.

Blessing on the Meal.

Special Music.

Colored Slide Pictures of a Trip to California.

Wednesday Morning, January 16
9:30 to 11:45

Reports of Committees.

Extension Beekeeping in Pennsylvania

HAPPY NEW YEAR!

Now is a good time to plan for next season, also a good time to place your order for **PACKAGE BEES and QUEENS**. **STOVERS** have spent many years supplying you with **SUPERIOR BEES** and will make every effort to do so in the future.

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1-24	\$1.10	\$4.00	\$5.00	\$6.00	\$7.00
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vania: W. W. Clarke, Jr., State College, Pa.

Roadside Honey Selling: Mrs. Charlotte B. Waldron, Malvern, Pa. Address: Jere Frazer, Chillicothe, Ohio.

Use and Properties of Honey: Prof. E. J. Anderson, State College, Pa.

Wednesday Afternoon, January 16
1:30 to 3:00

Round Table Discussion, Comb Honey Production: Led by A. R. Dean, Secretary of Allegheny County Beekeepers' Association.

Beekeeping and Use of Honey in Bible Times: Rev. Leonard E. Good, Nuremberg, Pa.

Report of Resolutions Committee. Adjournment.

At the suggestion of a number of beekeepers the program for the annual meeting is made up for a two-day meeting. Dr. White is a new speaker with the Pennsylvania beekeepers. We should give him a large audience. Mr. Frazer was with us several years ago. Everyone will want to hear him again. We have tried to build the program with variety enough to be of interest to all beekeepers. The beekeepers' banquet will again be one of the big features of the meeting. The

ladies of the church will serve a Baked Ham Dinner for \$1.50. We know from past experience that this will be a good dinner of the right quality and quantity. Make plans now for the two days and enjoy the buzzing fellowship of beekeepers at the annual Farm Show.

Send in reservations for the banquet early. Reservations should reach the secretary, H. N. Snively, Star Route, Mt. Pleasant, Pa., not later than January 8, 1952.

Middlesex Meeting, January 26 Waltham, Massachusetts

The next regular meeting of the Middlesex County Beekeepers Assn. (Mass.) is to be held at their winter quarters at the State of Massachusetts Experimental Station in Waltham, Mass., on January 26, 1952. Plans are to be formulated by the committee for the 81st Annual Spring Flower Show sponsored by the Massachusetts Horticultural Society where the beekeepers have been invited to set up an educational display on the HONEY BEE.

Thousands of people in the New England area have been introduced to BEES for the first time in their lives at these flower shows in the

past and the directors of the "SHOW" have expressed their opinion that the public would miss the BEES if the exhibit were missing.

John H. Furber, Sec'y

New Jersey Beekeepers' Assoc. Annual Convention

Thursday, January 31, 1952

AUDITORIUM YWCA
140 East Hanover Street
Trenton, N. J.

MORNING SESSION, 10:00

President's Address.
Report of Secretary-Treasurer, Milton H. Stricker, Annandale.
Introduction of Branch Chairmen and Secretaries.

"Can We Influence Beekeepers' Prosperity," E. C. Martin, Professor of Entomology, Michigan State College.

AFTERNOON SESSION, 1:30

Election of Officers.
"Preparing Honey for Market," E. C. Martin.
"Stump the Experts" — Membership Participation.
Report on the Honey Cookery Contest.
Report of Experiment Work, Prof.



DO YOU Know

- How the bee colony controls its own temperature?
- How many flowers a bee visits on one trip?
- How to use a robber cloth?
- How to mark queens?
- How to insure queen introduction?
- How to control swarming for comb honey production,
- How to completely prevent AFB?

..... DO YOU?

If you don't, get a copy of "THE HIVE AND THE HONEYBEE." It's all in there and hundreds of other facts—a complete beekeeping text by SIXTEEN AUTHORS. 650 pages, over 300 pictures. Price, \$4.00. From the

AMERICAN BEE JOURNAL

Hamilton, Illinois

I sincerely thank you —

for your patronage the past season. As a whole the season has been a good one for many beekeepers and let us be thankful to Him from Whom all Blessings Flow.

May you have a "HONEY" of a Christmas and great SWARMS of JOY and GOOD CHEER in the coming year. May the GOOD SHEPHERD guide you and KEEP YOU.



It is time to book your 1952 packages and queens, subject to later prices.

S. J. HEAD

Crossett, Ark.



Reg. U.S. Pat. Off.

ITALIANS
STARLINE HYBRIDS THAT ARE
RESISTANT TO DISEASE AND
HEAVY HONEY PRODUCERS, GEN-
TLE and easy to handle.

Robert S. Filmer, New Jersey Experiment Station.

Report of Beekeeping Inspection Work, Paul L. Holcombe, New Jersey Department of Agriculture.

DINNER, 6:30

Distribution of prizes for Honey Cookery Contest.

Bee Movies.

Annual Farm and Home Week University of Illinois January 28-31, 1952 Beekeeping Program Tuesday, January 29

- 9:00 The yearly cycle of the bee colony — V. G. Milum.
10:00 Hive essentials and construction demonstrations — (110 Vivarium).
11:00 The body structures of bees and how they work — V. G. Milum.
1:00 Illinois honey plants and beekeeping areas — Carl E. Killion.
1:45 The nature of honey and its care — V. G. Milum.
2:30 Demonstration of honey house equipment — (110 Vivarium).
Wednesday, January 30
8:00 Fall, winter, and early spring management of bees — V. G. Milum.
9:00 Late spring and summer management for production of extracted honey — G. H. Cale.
10:00 Production of section and bulk comb honey — Carl E. Killion.
11:00 Management for pollination and seed production service — G. H. Cale.
1:00 What race and strain of bees should we use — G. H. Cale.
1:45 Diagnosing brood diseases and their control — Carl E. Killion.
2:20 Comb pests and adult bee diseases — V. G. Milum.

The above is the two-day program of beekeeping subjects but visitors may attend other sessions from January 28-31, on farming including Agricultural Engineering, Agronomy and Soil Conservation, Live Stock Production and Marketing, Dairy Production and Marketing, Farm Management, Rural Organization, Forestry, Cooking and other phases of home making.

There are no registration fees or

other expenses except for transportation, board and room. Thousands attend each year. For complete information address request to Information Office, College of Agriculture, Urbana, Illinois.

St. Clair Beekeepers Association Belleville, Ill., January 2

A meeting of the association was held on December 5 at Belleville with a good attendance. After the regular business, the meeting was open for discussion and subjects were plentiful, many being taken from Journals past and current. The reason for the presence of burr comb in the hive was discussed, and one explanation offered was that the burr comb was built for ventilation purposes as it serves as a fin or baffle in assisting the draft of air through the hive.

The next meeting will be held at the County Highway Building at Belleville on Wednesday, January 2 at 8 p. m. There will be an election of officers and an interesting program.

Hankammer and Lieper,
Program Committee

New Officers

At the first annual meeting of the Berkshire County Beekeepers Assoc. (Massachusetts) the following officers were elected for the ensuing year: President, Lindsay A. Whaley, Sheffield; Vice-Pres., Morgan G. Bulkeley, III, Mt. Washington; Secretary-Treasurer, Edward L. Babb, Ashley Falls; and Librarian, Arno Werner, Pittsfield.

Ralph R. Ray, Sec'y

Cook-DuPage Beekeepers' Assoc. Annual Meeting Chicago, February 9

The annual meeting and dinner of the association will be held on February 9 beginning at 4 p. m. at the Masonic Hall, southwest corner of 23rd Street and Millard Ave., Chicago, Illinois (3800 West). The dinner will be served at 6 p. m. A colored motion picture of bees will be shown and there will be speeches, music and entertainment. The turkey dinner will be \$2.50 a plate.

A. J. Smith, Sec'y

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and Queens

F. E. Morrison

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It's Dallas in '52!

by Edw. A. Wolfe

Research, marketing, and pollination will form the basis of the program to be presented at the annual meeting of the American Beekeeping Federation at the Baker Hotel in Dallas, Texas, on January 17, 18 and 19. These three points have been, are, and will continue to be of major importance. No stable improvements can be expected within our industry until satisfactory solutions are found for these problems.

More than twenty speakers will offer their thoughts and experiences, but the future of the industry depends not on the thoughts of the speakers, but on the best efforts of every individual within the industry. It is therefore urged that everyone interested in these problems make a special effort to be present.

The meetings will open on January 16 with the Apiary Inspectors of America in session. This meeting will extend through the morning of the 17th when the Executive Committee and Board of Directors of the Federation will also meet.

The general meeting will be called to order at 1:30 P. M. A discussion of the Honey Utilization Committee by R. B. Willson will follow the President's address and report of the Secretary-Treasurer. New and better uses of honey are the constant goal of this committee.

The results of recent research on honey will be given by Dr. J. W. White who with his staff has been devoting full time to this work.

The Bee Industries Research Foundation is a new organization pledged to the improvement of our industry and welfare. Chas. C. Hansen, president of the Foundation, will explain the need of such an organization and how it will function.

The general meeting will adjourn at 4:30 to allow time for meetings of various committees.

Starting at 8 P. M., the Ladies' Auxiliary will hold its meeting. In addition to the regular business, re-

ports, and election of officers, Mrs. Harriett Grace of the American Honey Institute will be guest speaker.

The "500 Club" will hold its meeting starting at the same hour. A full discussion of the problems which are of particular importance to the larger producers will be directed by panels of men known for their wide knowledge and experience.

Also, there will be a separate meeting of honey packers with Raymond Fischer, of North Little Rock, Arkansas, presiding. All packers, whether they bottle only their own crop or handle millions of pounds, are urged to attend, not only to discuss and seek the solution to some of their own problems, but also to develop better coordination within this group.

The greater part of the following day will be given to the subjects of marketing and promoting the sale of honey. Howard Foster of California will discuss the functions and limitations of the national marketing committee. Mrs. Harriett Grace will bring the assembly up to date on recent developments of the American Honey Institute.

Following the directive of the Executive Committee, efforts have been made to learn what the industry might be able to do to improve markets through the medium of promotion and advertising. The presentation of detailed proposals for promotional and advertising programs will be given by representatives from that field. These proposals will be of vital interest.

The second day will be climaxed by the annual banquet with Roy Grout acting as toastmaster. Under such able leadership, the evening is an assured success.

The forenoon of the 19th will be devoted to pollination. Such speakers as Clarence Benson and S. E. McGregor of Arizona, Nevin Weaver and A. H. Alex of Texas, Russell Pierson and G. A. Bieherdorff of Oklahoma, and W. W. Franklin of Kansas, will discuss the work of the Honey and Pollen Plants Committee, bees and cotton, insecticides, sweet clover varieties, vetch pollination, and alfalfa seed production.

No effort has been spared to make this meeting of interest and value; one that will send you home better prepared to meet the coming year; one that will rekindle your faith and hope in your own endeavor—your own industry.

All roads lead to Dallas. We will meet you there.



The Dallas Museum of Fine Arts which houses a collection of paintings and statuary valued at more than \$3,000,000.

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EQUIPMENT ROUND-UP



- 1952 Round-ups -

With this issue something new is born—the 1952 Round-ups. Each month will have its Round-up. Each one of them will be intensely practical material and we hope to produce them so they will interest every beekeeper whether he is just starting or whether he already has a few bees or whether he has commercial interest, large or small.

If the enthusiasm this venture kindles in those we have asked to contribute also transmits itself to those who read subscribers generally will hail the plan with considerable satisfaction. It is a tough assignment for the editorial staff as it demands almost constant work with many people over the entire

time. When a list of subjects was prepared it was found that it will take much more than a year to cover them all. So we chose for the present volume what seems to us to be basic or very fundamental beekeeping. If the readers find they then want to have us continue we can, another year, venture into those things that, although important, are perhaps not as basically so as the Roundups will be this present year.

It should be much like going to school, a sort of correspondence education, brought to you by mail each month of the year. We will be happy to have agreement, disagreement, or divergencies from any of our readers at any time. The more you write

the surer we will be that we have something for you that fills a real need in beekeeping journalism.

No apology is made for the present Equipment Round-up. It was entirely prepared by those of us here at the publishers. There was not time to do otherwise. Beginning with February, the Round-ups will be put together from the contributions of many of the leaders of our industry throughout the country. There will be many able men who do not contribute. Space is too limited for more than a few and often someone other than those who take part might have been equally able to write what they know. A thousand pardons for not having a hundred pages to do a better job.

Our New Format

To set the Round-up apart from general reading, a picture page is used. The general articles that follow end with one about beekeeping in other lands which, in turn, is separated from the advertising and short items, Questions, All Around the Bee Yard, and Crop and Market, by a second picture page. The front contains advertising, contents, meetings and advertising index. There will be variations in this format due to the demands of advertising, unexpected claims on space, and so on, which are inevitable. Hope you like the new magazine.

The Cover Picture

If at all possible, the cover each month will be chosen from pictures suitable to the Round-up for that month. Our contest is over. If you want to send a picture you will have to take a chance on its suiting as we do not want to reveal our Round-up series any more than we have already. Your December copy included a subscription slip that listed them briefly. Please send any pictures you want to send as we need good ones constantly and pay for all we use. The one this month is from John Allen and Son, West Lafayette, Indiana, famous agricultural photographers.

Beehives -



by H. C. Dadant

Yesterday and Today

THROUGH the use of modern equipment, the beekeeper is now the master; formerly the bees were the master. Every colony now may be well judged and controlled, and a good crop can be harvested in a season of abundant nectar supply.

Early hives for bees were inconvenient and uneconomical. They were often hollow logs or rock cavities. The box hive of early days was a manufactured hive shaped like a box and was used instead of the hollow log. Straw skeps and pottery hives were common in the Old World. Later, hives were divided into horizontal sections and when the upper one was full of honey, a wire was used to cut the combs between the sections, and an empty part was placed under the full one. The beekeepers of Greece appear to have been the first to improve their hives with movable bars from which the combs were suspended. About 1789, Francis Huber provided a frame which supported the combs on all sides. These frames were fastened together at the back with hinges

so that they could be spread apart like the leaves of a book.

Several attempts were made in the first half of the nineteenth century to make hanging-frame hives. Dr. John Dzierzon devised a hive which opened at the back, but the combs had to be cut loose to remove each one from the hive.

In 1851, Langstroth discovered the bee space and invented the present movable comb hive from which the frames can be removed at will. The frames and hive parts are separated from each other by the bee space, the basis of modern hive design.

At the same time, Johannes Mehring developed comb foundation, and in 1865, the honey extractor was devised by Franz von Hruschka.

Then with the beginning of an active bee press, information was disseminated to the beekeeper and the first controversies about the size, style of hives and frames began. J. S. Harbison, of California, introduced the honey section of four pieces in 1857, and because of the new interest in comb honey, a marked

trend toward the use of the small brood nest followed. In 1885, Hedden and others reduced the Langstroth 10-frames to eight and others contended the brood nest should be divided in two horizontally. This was the first comb honey era and because of the restriction in hive size, it resulted in reduced crops of honey. However, there were those who believed in the larger hive, and chief among them were Quinby and the elder Dadants. After lengthy experiments, the original Dadant hive was adopted. It followed the Langstroth principle but contained eleven frames of Quinby size. The writings of the Dadants in English, French, Spanish, and Polish, and the revisions of the Langstroth book, greatly influenced the establishment of the Langstroth system.

Now, in this country, the 10-frame Langstroth hives and the Modified Dadant hives are standard equipment, particularly among commercial beekeepers.

The 10-frame Langstroth hive contains as its name implies 10 frames, 9 1/4 x 17 1/2 inches, spaced 1 1/2 inches

The old fashioned bee gum was long the kind of domicile acceptable both to man and bee. Many are still in use in the back country, especially in the mountain regions.

Frank Buckley of Honeycombe Farm in southwest England, is here about to transfer a skep of bees into a Modified Dadant hive. Straw skeps are still used in some English gardens.

C. F. Dadant and his father, Charles, early felt dissatisfaction with the Langstroth size of hive and, by many tests, devised the larger Dadant hive now known as the Modified Dadant.



center to center. The Modified Dadant contains 11 frames, 11¼ inches deep, 17½ inches long, spaced 1½ inches center to center, which allows room for the clustering of the bees and better ventilation.

For hives, white pine and cypress are good woods, although redwood, basswood, and cedar are used. The parts that tend to rot the quickest are the top cover, the bottom board and the hive stand, unless the latter is of tile or other indestructible material. To preserve bottom boards, they may be coated with a preservative. The tops of the hives should be covered with either aluminum sheeting or galvanized iron, and well painted with two coats of white paint which also reduces the temperature in the hive. New galvanized covers should be washed in vinegar before painting so the paint will adhere to the metal. All parts of the hive exposed to the weather should be protected by paint.

The combs in the hive or super should be as perfect as it is possible to secure them. The proper use of bee comb foundation has many advantages. Straight combs are obtained which permit easy and rapid handling of the colony. The removal of honey from supers is easy. These advantages, plus the control of a desirable population of bees, make

commercial honey production possible.

Before the general use of bee comb foundation, natural combs were improved by assembling pieces of the comb of worker-size, cutting and fitting them together into the wooden frame. This was the way combs were often produced in the frame before the days of Johannes Mehring. He is usually credited with the invention of comb foundation in 1857. He used a flat press which printed the rudiments of the cells on a beeswax sheet. Further improvements continued to be made until in 1873 when Frederic Weiss invented the roller foundation mill which materially advanced the production of bee comb foundation.

Today the wax foundation is imprinted with worker cell bases only and is reinforced for use by wires or otherwise. The combs drawn from it are all worker cells. These combs will last almost as long as the other equipment.

Once combs are drawn from the foundation, they become a valuable part of the beekeeper's possessions and therefore they should be handled carefully and stored to prevent any damage when not in use.

Combs not in use are usually fu-

migated with some chemical placed either above or under the piles of bodies, and supers. Carbon disulphide is frequently used for fumigating drawn combs but this is inflammable and should not be used where there is any danger of fire. Stored combs may also be fumigated with calcium cyanide which is obtainable from suppliers under various trade names.

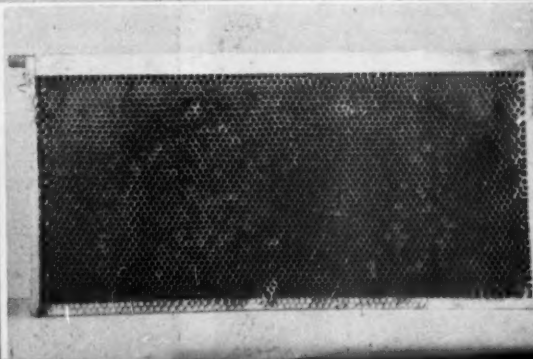
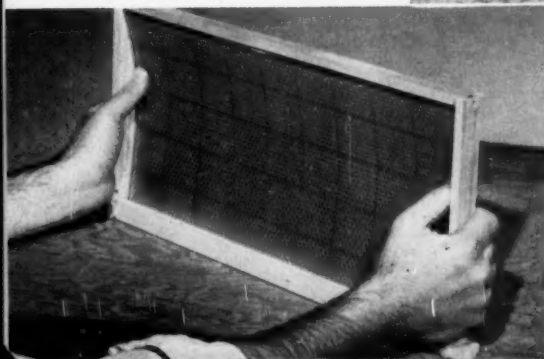
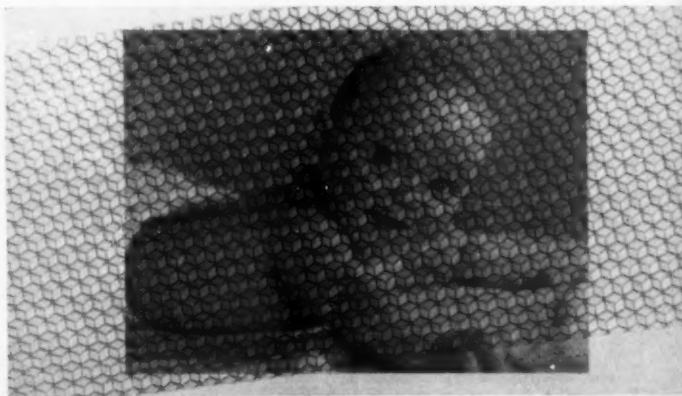
In our own practice, supers or hive bodies of combs are placed on 2 x 4 runners and the stacks closed at the top. Several ounces of the fumigant are piled on runner boards that are pushed under the stacks so that each pile comes directly under the center of the stack of combs. If considerable fumigation like this is to be done, it is best to wear some kind of a mask or nose and mouth protector.

One or two fumigations in the fall are usually enough to keep combs safe until late June of the following year.

To prevent damage from rodents, a good modern killer is D-Con, also generally obtained, which contains Warfarin, a new chemical rodent destroyer. Dishes of this in the storage room will be proof against serious damage from mice or rats.

Bee comb foundation today has much to do with crop size and honey quality. The picture of the baby at the upper right, shows right through a sheet of foundation used for comb honey. Honey from it is so "chewable" the customer seldom notes the wax sheet base.

Today's brood foundations are made for time and speed. Gilt-Edge foundation (below) is a fast working sheet that cuts down cost and labor. Fine bee comb foundations, made to prevent sag or buckle, result in combs (lower right) almost entirely of worker cells. Properly taken care of, these combs last for many years.





What Do I Really Need?

by Carroll Swanson

BEEKEEPING is engaged in for various reasons; for profit in honey production, for pleasure, for pollination purposes, or a combination of any two or all three of these reasons. Making an investment in beekeepers' equipment, like any other investment, needs some planning. The beekeeper should first consider for what reason he is engaging in beekeeping so that bee supplies may be purchased with this ultimate purpose in mind.

The established beekeeper is influenced in buying supplies by the type and size of equipment he has in use and the type of beekeeping he is following. He is familiar with the kind of honeyflow he has, whether it is adaptable to the production of comb honey or extracted honey. He has a rather good idea how many supers he needs and the type he prefers.

The beginner has the problem of deciding the type of hive he should use, 10-frame or 11-frame in size

and the method of keeping bees in regard to number of brood chambers, number, size, and type of supers. However, the first and most important decision should be for what purpose the bees are kept. If for honey production will you have only one to five colonies or will you expect eventually to increase to fifty or one hundred colonies? Will you produce section comb honey, comb honey in frames or extracted honey?

To the beginner, a bee supply catalog can be very puzzling. For that reason a list is given here of the essential equipment needed for one colony of bees.

- 1 hive consisting of cover, inner cover, body with frames, and bottom board
- 1 sheet of brood weight bee comb foundation for each frame
- 1 package of bees (either 2-lb. or 3-lb.) with queen
- 1 small-size smoker
- 1 hive tool
- 1 pr. bee gloves
- 1 bee veil
- 1 entrance feeder
- 1 book on care of bees
- 1 year's subscription to a bee magazine

The above will take care of the bees until the honeyflow begins, at which time supers will be needed. The supers are placed above the brood nest and is where the bees store the honey. The number necessary for each hive of bees differs from year to year according to the number of acres of available honey plants and the climatic conditions. The supers with frames and foundation should be ordered ahead of your

needs and may as well be included in the first order. However, before ordering them it must be decided whether to produce comb honey in sections, comb honey in frames, or extracted honey.

Regardless of the kind of honey you produce, it will be well to have additional room for brood rearing and for storing honey for the bees to use during the winter. A single story or one body hive is oftentimes not enough for both. When using a 10-frame hive, it is well to have an additional 10-frame body with frames and bee comb foundation for each body. With the deeper 11-frame, a shallow extracting super over the brood chamber is good winter food insurance. So also include these according to your choice of hive.

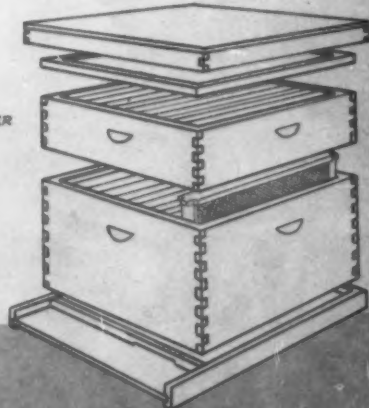
Section Comb Honey

The production of section comb honey requires a rather heavy and fast honeyflow. Supers can be purchased equipped with all fixtures, such as section holders, separators, etc., but the sections and bee comb foundation for them are ordered separately. Sections are made in several sizes but the size generally used is $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{4}$ and are notched to fold into a square and dovetailed in order to fasten the ends together. One type of section is split on three sides and to prepare them for the super, four split sections are folded and placed in a

The two types of modern bee hives most widely used; the Modified Dadant at the left and the 10-frame Langstroth at the right.

Parts of the hive (with shallow super). Many modifications occur to suit individuals. To illustrate, we use a heavy cloth, instead of the inner cover.

OUTER COVER
INNER COVER
EXTRACTING SUPER
HIVE BODY
BOTTOM BOARD





Most essential tool is a well-made bee smoker, with good free draft. A stout, long hive tool is also a must. (Look out though as the garage man and the painter like it, too.)



How many supers? This seven story colony in the experimental yard at Ames, Iowa, says five (full depth). Some years less. An average of four is good. (Photo by Dr. O. W. Park)



The big stack is a two-story (two hive bodies) HD, with shallow food chamber underneath and nine extracting shallows on top. A good average number of shallow supers is also four to the hive.

section holder with the unsplit side of the section downward. One sheet of thin surplus foundation $4\frac{1}{2} \times 17$ is slipped into the slits in all four sections at one time and the section holder is then placed into the super. A comb honey super for the 10-frame hive will hold seven of these filled section holders, a total of 28 sections, and the 11-frame super will hold eight filled section holders, a total of 32 sections.

If the unsplit type of section is used, the section is merely folded and a sheet of thin surplus foundation $3\frac{1}{2} \times 16\frac{1}{2}$ in size is fastened in the section by means of a foundation fastener. The grooves of all sections should be dampened before folding to prevent breakage.

For each hive you wish to use for producing section comb honey you should order the following:

- 4 comb honey supers with fixtures
- 100 beewax sections $4\frac{1}{2} \times 4\frac{1}{2} \times 1\frac{1}{2}$
- 1 lb. thin surplus foundation
- 1 section scraping knife for cleaning sections
- 1 foundation fastener if unsplit sections are used

Cut Comb Honey

For the beginner, perhaps the most desirable kind of honey to produce is comb honey in frames which is sometimes called cut comb or chunk honey. Regular shallow extracting supers, with frames to fit, are used with a thin, light-colored bee comb foundation called cut comb foundation. This type of honey is easier to produce, is less work than filling section supers and does not require the expenditure for extracting equipment necessary when extracted honey is produced.

Your order for this equipment should read:

- For 10-frame equipment—
- 1 10-fr. hive body with frames and reinforced foundation
- 4 10-fr. $5\frac{1}{2}$ shallow supers with $5\frac{1}{2}$ frames

- 40 sheets cut comb foundation size $4\frac{1}{2}$

For 11-frame equipment

- 1 11-fr. body with frames and reinforced foundation
- 3 11-fr. shallow supers with $6\frac{1}{2}$ frames
- 33 sheets cut comb foundation size $5\frac{1}{2}$

Extracted Honey

In localities where the honeyflow is slow, extracted honey is the most profitable to produce, especially after you have supers with drawn combs. Some beekeepers use bodies in which the bees store the honey. These become rather heavy when filled with honey, and for that reason a number of beekeepers use the $5\frac{1}{2}$ inch or $6\frac{1}{2}$ inch supers with the proper frames for each. When using regular hive bodies for surplus honey, two bodies are usually needed for the brood nest and for wintering and two or three more should be available for storing honey.

In the production of extracted honey, it is necessary to remove the honey from the combs in which the bees have stored it. To do this, the cappings must first be removed from the top of the cells. There are a number of different implements for doing this work ranging from a cold uncapping knife for about \$2.00 through the list to a machine for the commercial producer costing over a thousand dollars. For from one to five hives, the honey can be uncapped with a cold uncapping knife but if you have more than five hives or expect to increase your number of colonies, the electrically heated knife is a good one to use. The amount of heat is thermostatically controlled. There are also steam heated knives to consider and motor driven uncapping knives that need a source of steam for heating the

blade. There are also electric planes and steam planes.

As soon as the cappings are removed from the combs, the frames containing the combs filled with honey are placed in machines called extractors. These extractors are either hand or power driven and remove the honey from the combs by centrifugal force. For this reason the combs must be strong so they will not be broken when run through the extractor as they are used year after year. Most manufacturers of bee comb foundation make reinforced sheets for use in brood frames and for extracting combs. These sheets of reinforced foundation provide midribs which resist sagging and stretching, and also eliminate a large percentage of drone cells. For the production of extracted honey, you should add the following to the first tabulated list shown:

- For each 10-fr. hive
- 1 hive body with frames and reinforced foundation (for additional brood chamber)
- Either—
- 2 additional hive bodies with frames and reinforced foundation
- Or—
- 4 shallow extracting supers with reinforced foundation
- For each 11-fr. hive
- 4 shallow extracting supers with reinforced foundation
- For either 10-fr. or 11-fr. equipment
- 1 uncapping knife
- 1 extractor
- honey strainers and wax melters

If you expect to have more than five colonies, it may be well to equip for handling in the convenient way to begin with and avoid buying the smaller extracting outfit only to be discarded later.

Any bee supply house will be glad to aid you in selecting your equipment. Their aim is to send you the correct supplies. With your order, give all the information you can. Catalog numbers help greatly.



How Shall I Use It?

by G. H. Cale

IT is a bit rough to have to answer this question and keep it strictly on a basis that concerns only equipment and not management. Henry brought the beehive up to date, also the foundation sheets that are as much a part of the hive as the wood itself. Swanson certainly brought a supply man's viewpoint to the consideration of the beekeeper's equipment. What he has just written should make it easier for the tyro, at least, to secure his supplies intelligently. Grout will take our crop inside the honey house and give briefly the kind of building and equipment the beekeeper needs in which

to handle his honey and his supplies. It is up to me to write about the equipment when it is in use in the bee yard.

I have always thought that the beehive is just a tool. I have kept bees in shallow hives, in eight-frame hives, in ten-frame hives, and in Dadant hives. With intelligent management, good crops of honey can be produced in any of them. I have seen many different kinds of hives and supers that spring from individual conception. To give in one statement my own idea of a hive, after all this experience, I have found that I can handle more bees by my-

self in the big hive than in smaller ones; more honey in shallow Dadant supers than in others.

As far as the use of equipment is concerned, I am blasting out a new path for myself and hope sometime to tell about it when I can be



A yard, just before flow, ready to move to a producing location. Deep top screens are above the hives, with porch screens in front. Hives are stapled to bottoms. A supply of top and porch screens are valuable when moving has to be done frequently. These hives are set on squares of corrugated metal for hive stands. They are light and last for years.



sure I am not exactly daft and that what I do is worth while. The equipment concerned is that which is demanded by the plan I follow in the bee yard. I use a two-queen system, with large hives. That means I have to have two hive bodies for each colony and supers enough for above average crops. Likely I should have at least five of my shallow supers for each hive.

Not enough has been said about keeping equipment in good condition. When hives contain colonies of bees, they may stand in the yard year after year. Temperature changes will pull out the nails; corners will gap; bottoms will rot; wood will decay. A good coat of paint helps cut down this weathering. Hives with bees in them can be painted with a sprayer. Choose a cool day when bees fly little and you won't have to exchange equipment (painted for unpainted). Take well-conditioned hives to the yards when you go, and at a time when supers are not high on the colonies you can exchange the worse battered equipment for the new. Take the old equipment home;

recondition it; paint it; and so continue. Got to do it you know, or else.

Do have the top of the hive covers painted, metal covered if possible, or covered with heavy composition that may be painted. Also the bottoms wear out fast. Some beekeepers set the bottoms on hive stands of wood, or tile, or bricks, or runners. We have also used discarded auto tires and old tire rims. The best hive stand for us is a square of corrugated metal roofing, cut to extend any desired length at the sides, back and front of the hive. They may be expensive now unless you can locate used material. But these stands are light, easily moved, and last indefinitely. Expensive hive stands often cost as much as new bottoms so, unless you have some scheme for a stand that is cheap, they simply exchange one expense for another.

Wood preservatives help to prevent rapid decay of bottom boards. Bottoms of cypress also last longer than ordinary softer woods. We have found the use of a preservative, together with heavy, weather-proof tar paint, about as good a protection as any. On the average the bottom board will last five to eight years when well protected.

Most of this so far has to do with extracted honey production but when bulk or section comb honey is produced the attention to equipment is about the same. We find that our production of comb honey is increasing every year because present markets demand more comb honey than they have in the past and the prices are better. It is not too difficult to convert the shallow extracting supers so they are suitable for the production of bulk comb honey but, for section comb honey, supers built for the purpose are the best.

Location has much to do with the number of supers one needs. An excellent place may demand five or six comb honey supers to the hive; a less favorable one may reduce that number. Usually the upkeep of section and bulk supers becomes automatic since handling the supers each season requires refinishing them for another year.

Perhaps this is not quite a part of a consideration of equipment but to me it seems of sufficient importance to make it so. I am one of the worst offenders against this rule: keep your combs perfect, in either supers or hives. No one does, but make it a rule and brace yourself to follow it. To me the combs are precious. They do so much for me.

Those nuc boxes pictured here are essential equipment to me. One should have nuc boxes up to about ten per cent of his total number of hives. Twenty per cent would be much better. There is no special plan of construction. I like that five-comb transport box (shown in the picture in the lower left corner). We figured this one ourselves. It is made mostly of thin resaw, with a screened top and a screened bottom. The sides are deep enough to allow a false wooden bottom to be nailed on. The top also has a wooden covering above the screen and this top fits down over the wood rim that extends around the box. Both ends have metal spacers for five combs. A similar spacer in the center of the bottom holds the comb bottom bars, so that when the box is handled the combs and bees are not injured.

These nucs may be carried about to replace poor queens, make increase, and are used for queen rearing; in fact, they are so generally useful that they are as much a part of our equipment as the hive or supers.

We often use two MD bodies for brood with one or two shallows for additional winter stores. With good queens very strong colonies result. (Top left).

At bottom left, are our four frame nucs, used for mating queens; for slow queen-rearing; or for seasonal divides.

Bottom right, nucs used by Hoffman apiaries in Wisconsin. These are for large frames and have a slip over cover.



How To Handle the Honey

by Roy A. Grout

IN years past it was the custom to handle honey at the apiary or with transportable outfits. Now all-weather roads and automobile trucks make the central plant more efficient and less costly. A working crew in the bee yard taking off the honey and taking it to the central plant, can in extensive honey production keep an extracting crew busy until the crop is in the can. The smaller beekeeper with his bees at home or with only a few in out-yards does not need the extensive setup that the large operator requires.

The honey house, however, regardless of the size of operations should have ample facilities for the present outfit and any anticipated expansion.

I want to stress the economy of a well-arranged simple structure as being far better than a large house with expensive equipment and with poor arrangements. Often the adaptation of existing buildings is better than to spend money for the construction of special buildings just for handling and extracting honey. Also, when it is necessary to build a honey house, it should be made so that it will prove useful for some other purpose if it has to be abandoned.

Fire protection should be considered. We should use corrugated iron siding, concrete floors and fire resistant roofs, and if possible, build in towns or cities where fire protection is available. Insurance should be carried on the house and its contents.

The honey house should be large

enough for the use to be made of it. Yet it should be compact, bee tight, well ventilated, and capable of being kept thoroughly clean with floors well made and strong enough to carry heavy loads. When the honey is brought in it should be possible to move it in a continuous line to the storage tanks and shipping and packing room.

The large operator may desire a steam supply provided by a boiler which is housed preferably in a small separate building or room and which may also include wax rendering equipment. Frequently a heated room is desirable in which supers of honey may be warmed before extracting. Most honey houses are also used as a workshop and for storage, and frequently for garage purposes. For the production of comb honey, there should be enough bench room for cleaning, grading, packing, and fumigating.

When trucks are driven into the house, the building should be so equipped that doors may be shut to prevent bees from entering.

Honey houses may be either one story or two story. The two-story house may have both stories above the ground or there may be one story above the ground and a basement below. One story houses should be made so as to allow the loading and unloading of trucks at floor level. This is easy when the house is on a slope. When the house is constructed on level ground, the floor should be about four feet above the ground to allow truck level unloading, or the driveway should be lowered to bring about the proper



height, although the latter presents a drainage problem.

Considering today's building costs, perhaps the most economical is the one story quonset which may be obtained in multiple widths and lengths. This kind of building is adaptable to almost any requirements. The house in any event should be bee tight with all openings which are needed for light or ventilation screened, and with some way of escape provided for bees.

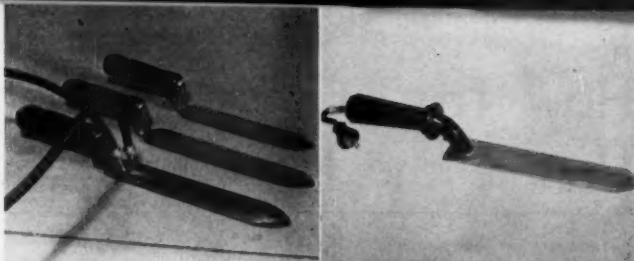
In handling honey, care must be

The quonset style house of Ira Bowers, Decatur, Illinois, is a fine example of the well equipped small house. It includes equipment for packing honey. Note the drip-cut servers being packed.

The two story house of Rocks Brothers, Eureka, Illinois, is one of the finest examples of the well equipped large plants. It also includes packing facilities in a basement.



(Left top)—Uncapping knives—plain, steam, and electric at right. The tendency today is toward electric knives. The fifty-frame radial extractor, or the thirty (center) backed by an efficient uncapping system, will turn out large quantities of honey in a working day. The two trucks (below) owned by Russell Griggs, Hancock, Iowa, are examples of the best transportation equipment in use today. They carry a honey message wherever they go.



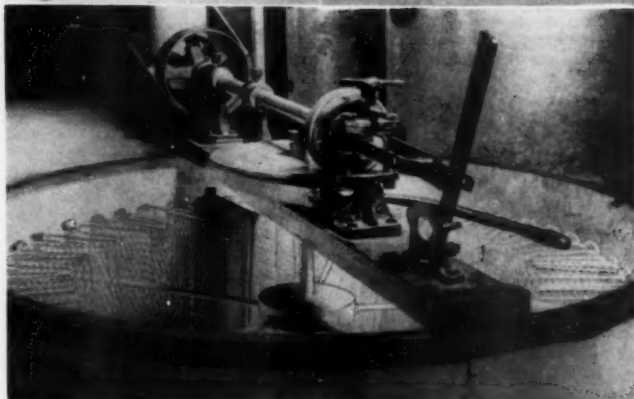
taken to produce a clean, wholesome, sanitary product, so honey and beeswax should not be allowed to accumulate on floors and other surfaces of the honey house. Also it should be remembered that attention to cleanliness begins in the bee yard. By whatever means honey is brought from the yard to the house, it is well to have some means of preventing the dripping of honey from supers to the floor of the conveyance. Hauling boards or trays are often used and these may be just the size of the hive body and cleated around the top and the top covered with galvanized iron forming a tray which may be easily washed. At the honey house, warehouse trucks or lift trucks are efficient and convenient in moving supers in quantity where these efforts are desirable.

Larger operators prefer the lift truck with platforms to hold two, four or more stacks of supers, also as with the smaller skids, covered with a galvanized tray for cleaning. Our platforms hold two stacks of supers, seven high. If such equipment is not used, the supers, when set on the floor of the building should be placed on clean papers which may afterwards be gathered up and disposed of.

The honey house should be provided with the usual uncapping equipment with some way of separating honey from cappings, and a comb draining device to hold the uncapped combs ready for the extractor, the honey extractor itself, and if a sump is used to catch the honey from the extractor, a honey pump is necessary to carry the honey over to the settling tank unless a gravity system is used.

For uncapping, a good sharp heated knife is desirable. This may be a plain knife in warm water, or a steam knife with one or two stems, or the newer electrically heated knife which has proved very satisfactory.

The separation of the honey in the cappings may be accomplished by draining or by extracting, or by heating the cappings in a separator or melter. The Brand melter is the best machine we have used because



as the wax melts, it rises to the surface and liquid honey remains at the bottom.

In gravity draining, the cappings fall into a can with a screen to hold the cappings off the bottom so the honey will drain through and may be later drawn off through a honey gate. The honey may also be uncapped into a cappings dryer which is then placed in the extractor at the end of the day for whirling as dry as possible. We prefer the melter which delivers wax and honey separated, with little damage to the honey.

The four frame reversible extractor in which the baskets swing to reverse the combs is probably the best

machine for the small operator. It may also be equipped with an electric motor to make it power driven. The more expensive radial extractors or the pivotal-reversible extractors are used by the larger operators.

From the extractor, the honey may flow by gravity through a strainer into a tank and from the tank into containers, or it may be pumped from the sump to the settling tank through suitable strainers at that point.

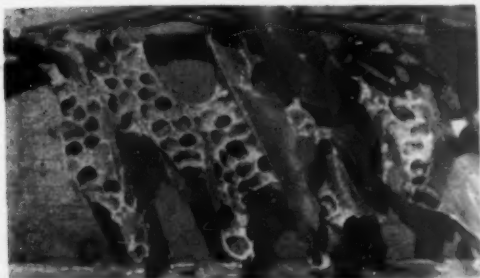
It is quite likely that the future will bring many changes in the efficient handling of honey and nowhere in honey production is there a greater need for improvement.



This method of packing five hives together comes from Chas. A. Peet of New York. The hives are set on two boards set on bricks with two inches between hives. Tar paper is run around the whole and made secure with strips of wood. Straw packing, a finger hole entrance, and a heavy paper roof complete the job.



Walter Myers is only in his teens, but he and a friend have been working with bees for several years and have sent us this picture of their project "A Scientific Study of the Honey Bee" which won two first awards and the outstanding award at the "Junior Academy of Science" in Charleston, Ill. A good beginning!



This is the only instance L. L. Swain of Washington has seen when bees built comb with flat bottoms. Here the tree leaf formed the bottom of the cell. This swarm was queenless.



Boy Grout, acting Chairman of the Washington Committee, M. C. Jensen, President of the Federation, and John Kolshorn, of the Executive Committee, seem to be hashing things out at the last meeting in Denver. (Photo by Clarence Langley)



Arlington F. Smith of Pennsylvania writes that he has some "pet" black snakes in one of his bee yards. They live in summer in some discarded hives in the yard and are useful in keeping away mice and skunks during the summer. They are quite tame and like to lie under the hives set up on bricks.



Bill Wicht, Matteson, Mississippi, has these big signs near his yards. This one reads: "Wicht Apiaries, Queen Mating Yard No. 2." A bit of advertising hurts no business. Advertise your honey on your trucks; talk about your business; write about it. After all beekeeping is just as good as any other profession.

Soybeans for Honey Production

by

J. H. Davis

Left: The Dortchsoy No. 2 has proved to be the most prolific bean producer in the state of Arkansas. This is a mature plant.

Right: Dr. L. M. Humphrey, agronomist for the Robert H. Dortch Seed Company of Scott, Arkansas, cross pollinating to develop new varieties.



HONEY production from soybeans is at last a proved fact.

For years this was doubted by beemen as bees were seldom found on soybean blossoms.

Several years ago Vaughn Wilson of Bethesda, Arkansas, who operates in the cotton area in the eastern part of the state, placed bees on a buckwheat vine location adjacent to a large soybean field and secured a wonderful crop of nice "vine" honey. Then the farmer failed to grow soybeans in this field and that year the vines yielded no honey surplus. The next year the farmer repeated his soybean crop and again the "vine" flow was abundant. Subsequent events served to substantiate the

evidence that the supposed "vine" honey had been secured from soybeans.

In 1948 the boll weevil threatened to destroy the cotton crop. The poisoning program for the control of this crop pest became a menace to bees and they were quickly moved to any location beyond flying distance of the poisoned fields. There was no possible chance for the bees to sustain themselves on some of these isolated yards and feeding was necessary. The inspection service was disrupted and bees were examined wherever found. The chief inspector, making the rounds in this district, joined the men feeding bees on some of these locations.

About 50 colonies that had produced a good crop of vetch honey and were still strong were placed close to some soybean fields with no thought of honey production. The hives were two-story brood nests with a shallow super on top. When this yard was visited, much to the astonishment of all concerned, the hives were heavy with honey and many colonies were crowding the brood nest. Instead of needing food they were in dire need of extra supers for honey storage. Now this was toward the last of August when soybeans were the only plants blooming in this area. Needless to say, all available colonies were rushed to similar fields but several loca-

ions failed to show any results. Other beekeepers reported like experiences last year, some obtaining surplus honey from soybeans while others were disappointed.

With this information as a start, a careful study was made of the nectar-producing fields. Indications were that the variety of the beans has less to do with nectar production than the cultural practices. It

its blooming period is greatly influenced by the length of the day. Thus the southern soybean will not do well in the North or vice versa. If the days are of the right length, soybeans will continue to bloom and set beans until the plant is mature or the days grow shorter. In 55 days from sprouting time, Dortchsoy No. 2 will begin to bloom and will set seed pods in 70 days. It will contin-

should consider the importance of variety selection.

The honey is water white and of good quality. When the season is favorable it is not unusual to obtain an average surplus of more than 100 pounds per colony. The blossoms are not heavy nectar producers and the bees must work diligently and visit many flowers before securing a load. One field where several hundred hives were located was so covered with bees that the owner could work there only after rains to remove the grass and weeds that were detrimental to the plants.

Dr. Humphrey, who developed the Dortchsoys by selection, says that soybean blossoms are seldom cross-pollinated. They are so constructed that it is practically impossible for the bees to have access to the pollen. He states that cross-pollination of the soybean blossom is such a delicate operation that it is not always successful even when performed by experienced technicians.

The beans should be planted about the middle of May after the land becomes warm. It must also be moist enough for good seed germination. One planter tests the planting time by sitting on the ploughed ground. If he experiences a chilling sensation he postpones the planting.

The best soybean nectar-producing areas of Arkansas are the river bottoms where the soil is deep and fertile. The beans start blooming about the second or third week in July and continue to bloom until about the middle of September. Few other nectar-producing plants are available at that time.

Arkansas



was noted that where soybeans produced a honey surplus they had followed a highly fertilized fall or winter crop. They seem to thrive on leftover fertilizers (those not used by the previous crop) instead of those applied directly to the soybeans themselves. Agronomists agree that the soybean has the peculiar ability to utilize this leftover fertility. Thus any crop of soybeans, regardless of variety, that follows a well-fertilized fall or winter crop seems to be nectar producing.

The soybean is photoperiodic. According to Dr. L. M. Humphrey, agronomist for the Robert H. Dortch Seed Company of Scott, Arkansas,

ue for probably three or four weeks or until the days begin to shorten. This variety is recommended as suitable for Arkansas. Dortchsoy No. 31 requires 60 days for its first blooms and will begin setting of seed pods in 82 days. Therefore, this variety will do better farther south where the growing season is longer. It is becoming increasingly popular in southern Georgia and Alabama. The Lincoln will bloom in 31 days and will begin to set seed pods in 45 days. This variety should be grown in the North where the growing season is considerably shorter than ours.

Beekeepers interested in maximum honey production from soybeans

Microfilms of ABJ . . .

We should like to remind readers of the American Bee Journal of the availability of the complete 1951 issue on microfilm. By this means the entire year's Journal is made available in relatively smaller space and at a lower price than the cost of binding a year's issues into a volume. Where microfilm apparatus is accessible, this is a good way of storing and using copies of the Journal. Readers interested should write direct to the University Microfilms at Ann Arbor, Michigan.

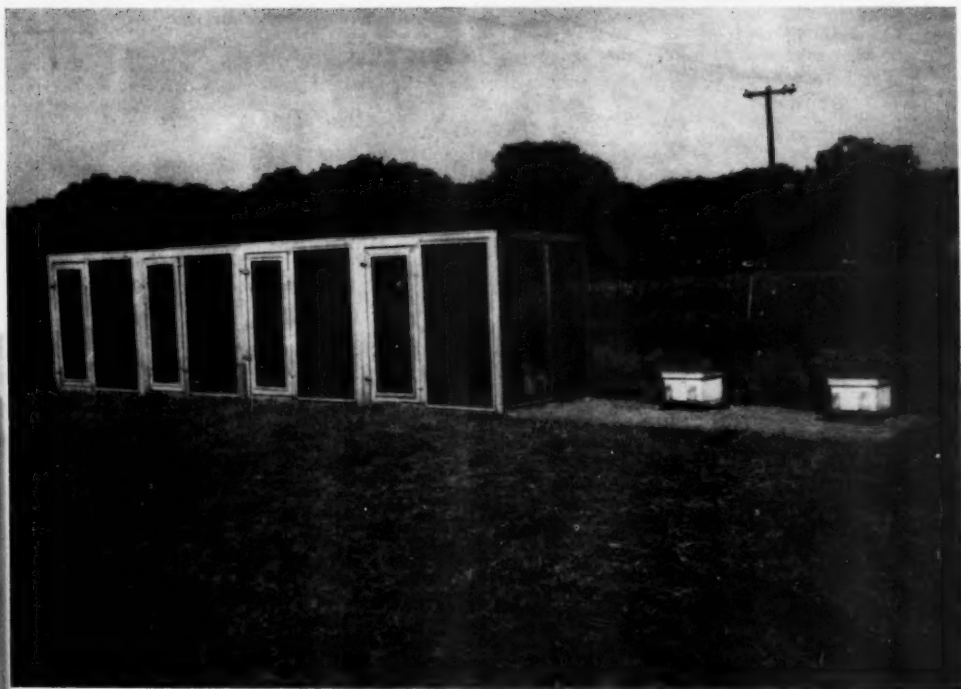


Figure 1. Four of the colony cages set up. Two have been removed showing the colonies in place with feeders and the sand floor of the cages.

Collection and Utilization of Propolis and Pollen by Caged Honey Bee Colonies

by S. E. McGregor

TESTS were conducted with caged colonies of honey bees to determine the attractiveness and utilization of propolis and other resins and pollen. The cages, covered with 16-mesh wire cloth, were 6 by 6 by 6 feet (figure 1). Each colony was started with approximately two pounds of bees and a queen on foundation in a new one-story, ten-frame hive. Italian and Caucasian strains of bees were used. Water and 50-50 sugar-water (by weight) were supplied ad libitum through Boardman entrance feeders. Propolis taken from outside colonies, as well as other res-

ins, was suspended near the top of the cages. Pollen, with soy flour² and without,³ was supplied in cakes directly above the brood nest, in pellets poured in open cells around the brood nest, or the pellets were pulverized and the dust exposed in open pans in the cage. More than one test was made on some of the colonies. As soon as the effect of one material was determined, generally after about two months, the test was stopped and another material tested.

The materials supplied and their utilization by the bees is shown in Table I. Philipp (1928)⁴ states that

bees, after eating pollen, produce a propolis-like material which he terms "balm." No such material was found in the caged colony receiving no resinous material. This colony existed

1. A contribution from the Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, U. S. Department of Agriculture, in cooperation with the Texas Agricultural Experiment Station.
2. The pollen-soy cakes consisted of: pollen, 8.3; soy flour, 25.0; water, 22.2; and sugar, 44.5 per cent.
3. The pure pollen cakes consisted of: pollen, 37; water, 13; and sugar, 50 per cent.
4. Philipp, P. W. 1928. Das Kittharz seine Herkunft und Verwendung im Bienenhaushalt. Biol. Zentbl. 48: 705-714. Reviewed in Amer. Bee Jour. 70: 274, 1930.

in the cage for over nine months, and during this time was fed 8 pounds of pollen pellets and 6 pounds of pollen-soy cake. No ill effect was seen that could be attributed to the absence of propolis in the hive, even though the outside temperature ranged from -3° to 100° F. during the period of observation.

Commercial rosin mixed with mineral oil or with turpentine produced gummy resinous materials of a consistency similar to that of fresh propolis, but the bees ignored them. Tree tanglefoot, a commercial product of a similar chemical nature and often used to trap insects, was collected by the bees as readily as propolis. Comparison before and after collection by the bees indicated that the materials were merely transported and deposited without any apparent alteration.

Feeding pollen in cakes, either with or without soy flour, did not maintain brood rearing in the caged colonies, but when pollen pellets were placed in open cells surrounding the brood nest area, brood rearing was maintained at a low level. Dry pollen pellets were less acceptable to the bees than pellets that had ab-

sorbed moisture until they were of a doughy consistency. The best brood was produced in the colony that collected and stored the pollen pellet material that had been pulverized to a dust. Eleven square inches of brood developed to maturity and emerged from the first eggs deposited in the colony that received no pollen.

Summary

Colonies of honey bees were maintained in cages and supplied with propolis and other resins and pollen. Some resins were ignored, but others, including propolis, were readily utilized, apparently without alteration. Evidence indicated that bees do not produce a resinous material called "balm" after eating pollen.

Pollen was supplied by different methods. Cakes containing pollen with or without soy flour did not maintain brood rearing, but brood rearing was maintained when pollen pellets were fed into the cells surrounding the brood nest. Best brood developed in the colony that collected and stored pulverized pollen pellets. A few square inches of brood developed in the colony receiving no pollen.

Smoker Hook Prevents Fires

New smokers should have a handy metal hook on the side so we can hang the smoker over the end of the hive body or super. When working with the bees an ordinary hive staple, driven into the side of the bee supply house, or into a tree or post makes a convenient place to hang the smoker when not in use. This keeps the hot metal away from any combustible material.

W. E. Grossman, Ohio

Captain Derby Passes . . .

Colorado beekeepers will regret to learn of the death of Captain Raymond Derby, Chief of Radio Communications, Denver Police Department, and an enthusiastic amateur beekeeper. A highly regarded technician in his chosen field, his approach to the beekeeper's problems was on the same level. His friendly personality and informative contributions won for him a host of friends, who will mourn his passing.

G. H. Rose, Colorado

Table 1. Utilization of propolis, resins, and pollen by caged colonies of honey bees.

Propolis or Other Resins

Pollen

Cage	Material supplied	Observed in hive	Reaction of bees	Method of feeding	Effect on brood
1.	None.	None.	No apparent ill effect from absence of propolis.	1. Pollen-soy cakes. 2. Pollen pellets in cells.	Brood fair first 2 weeks, thereafter very poor. Averaged 4 frames with brood for over 5 months.
2.	Dark brown propolis. Dry resin. Resin wet with alcohol. Poplar buds.*	Propolis of a similar color and consistency. None. None. Amber propolis.	Collected it regularly. Ignored it. Ignored it. Visited occasionally.	Pollen-soy cakes.	Brood fair first 2 weeks, thereafter very poor.
3.	Dark grayish-brown propolis.	Propolis of a similar color and consistency.	Collected it regularly.	Pure pollen (no soy) cakes.	Brood fair first 2 weeks, thereafter very poor.
4.	Tree tanglefoot-carbon black. Asphalt, solid. Asphalt, liquid. Thick white lead paint.	Propolis black, very sticky. None. None. None.	Collected it regularly. Ignored it. Ignored it. Ignored it.	Pollen-soy cakes.	Brood fair first 2 weeks, thereafter very poor.
5.	Tree tanglefoot. Resin lumps. Resin, pulverized. Resin-turpentine. Resin-mineral oil.	Propolis amber, very sticky. None. None. None. None.	Collected it regularly. Ignored it. Ignored it. Ignored it. Ignored it.	Pollen-soy cakes. Pulverized pollen-pellets (dust).	Brood fair first 2 weeks, thereafter very poor. Best brood produced by any colony.
6.	Resinous alcoholic extract from poplar buds. Poplar buds moistened with alcohol.	Amber propolis. Amber propolis.	Visited occasionally. Visited occasionally.	No pollen. Pure pollen (no soy) cakes.	Brood normal first 6 days then rapidly disappeared until only 11 square inches emerged. Brood fair first 2 weeks, thereafter very poor.

* *Populus deltoides*, cottonwood.



Dogs Discover Honey

by Howard W. Walters, D.D.S.



The author with two of his Chesapeake Bay retrievers. Hunting is real sport with these dogs who thrive on honey added to their diet.

YEARS ago, like many men who maintained a kennel for hunting and retrieving dogs, I tried various foods to find an all-round diet for development, for maintenance of adult dogs and for a successful breeding program. I tried all foods — but through the years finally came to the conclusion that each food was lacking in something.

Most of my dogs could take a spell of several days of hunting but it was only by watchful care that I fed just enough to keep the pep and bounce and drive necessary for a gruelling hunt and yet not overfeed and end up with sluggards. Many of the field men, in order to thin down their dogs, just cut down on food; "conditioning" they called it. Foolish, of course. Just try it yourself and you'll find out that if a hunter cuts his rations he'll be ready to turn in even before noon.

All dogs occasionally "go off" their feed. The fundamental cause may vary, but the underlying fact that the dog is lacking in a vital nutrient, is not to be disputed.

It happened that one of my favorite Beagle females, due to whelp shortly, refused to eat. She had to have nourishment and the proper kind and amount as the bone structure of the puppies was forming and she soon would need strength to bring her puppies into the world and feed them. Coaxing and force-feeding proved useless; I tried raw liver, cooked liver, lamb — even steak. But her system seemed to reject all food. I had taken her drinking water away and to quench her thirst

gave her milk. However, in pouring the milk I happened to spy a jar of honey on the kitchen table and recalling that honey is a true food, predigested by the honey bees, I added a tablespoonful to the bowl of milk.

The thirsty Beagle took a lick and then, as I expected, settled back on her haunches. Slowly she rolled her tongue around as she intently eyed the bowl. Another lick and again she contemplated the strange taste on her tongue. Then abruptly she got to her feet and slowly but surely emptied the bowl. Later that evening she drank a full pint of milk — with more honey, of course. I was careful not to give too much honey knowing that too much has a laxative effect.

Milk again in the morning with cereal and honey and to make the story short, by the time that the jar of honey had been emptied, the female was eating regularly again and was in fine spirits. Her eight puppies arrived and whether or not it was due to the honey, she seemed to have more milk to feed her puppies than with any previous litter. And just try to imagine a prettier picture a few weeks later — eight little Beagle puppies, sterns almost wagging off as they clean up their milk and honey and meal!

When several dogs in the kennel came down later with a virus and refused to eat, the experience with the Beagle was not lost and again I tempted appetites with honey.

In later years I chose a breed of

dogs which I believe to be superior in courage, endurance, intelligence, nose, willingness to obey and in temperament. I now have Chesapeake Bay Retrievers exclusively. A Chessy will take and seem to literally enjoy sub-zero weather, his eagerness and enthusiasm actually spurring on the hunter. Year round, the dogs are out in an unheated, but well-insulated, kennel and I believe that because of a proper complete diet they are beautiful pictures of health; their temperaments are well-balanced and they are always ready for a fall weekend outing.

Eyes searching the skies with mine, the Chesapeake sits beside me in the duck blind or sometimes, breaking ice, he will sit in the shallow part of the lake, his gay tail churning the water into little whirlpools behind him, waiting for the sound of the shot and the command, "Fetch."

What a thrill to watch Queenie, marking each duck as it falls, then slashing through the water to vanish — and to reappear proudly delivering her find with power-moving, spine-tingling style.

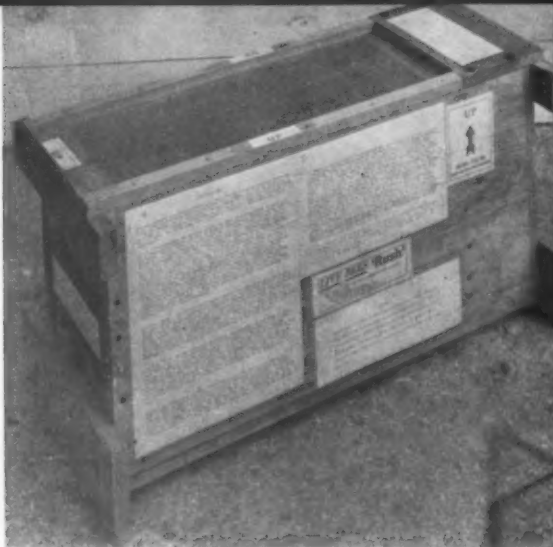
Whether Queenie's hurrying back to me is a result of her hours of training or if her flawless obedience is an urge to hurry back to me for a lick or two of warming honey is a moot question . . . but I enjoy Queenie's retrievers — and Queenie enjoys her honey. Queenie and I don't call it a bribe — just a tasty reward at the end of the day for a job well-done.

New York

A Colony of Bees for China

by Roscoe F. Wixson

Photo showing the package of bees containing six queens, four of which survived the trip to China. They started their journey on July 3, 1948 and arrived at their destination on August 8.



IN the June 1951 issue of the American Bee Journal, there appeared a photo showing the first colony of bees ever to travel by air, from Sarasota, Florida, to New York City, prepared and made ready by Mr. Pat Miville. But in 1948, with the cooperation of Mr. R. C. Daniels of Picayune, Mississippi, I sent a colony with six queens to China.

For years I had known a Miss Annie Pittman, who was connected with a Methodist Mission in China, some 400 miles from the nearest port. The travel from the port inland was mostly by river or by oxen and carts. At the Mission, Dr. John Kung was much interested in bees as they had several colonies near the Mission but lacked the necessary supplies to take care of them properly. In 1947 several standard hive bodies were prepared and shipped parcel post to the Mission in China, and arrived in good order. Later Dr. Kung advised that the bee stock was quite poor and wished that some queens could be obtained from the U.S.A. Thus began the problem of how to ship them to arrive safely.

I was advised that the period of confinement for the bees would be around six weeks or more, so a specially prepared hive had to be made to take this into consideration. I began the rounds of queen breeders in the South. None would touch the problem. But at last in writing to R. C. Daniels, he promised that he would do what he could to get the queens through. I sent to Mr. Daniels a drawing showing how I would prepare the hive to ship the bees for

safe arrival of the queens. Mr. Daniels, with his experience in the queen business, then started the construction of this special hive, and as he advised me later, it was a most complete and complicated setup. Very few men would have bothered to do this, and so Mr. Daniels should have full credit for doing an almost impossible task. The bees were flown from the air field nearest Picayune, Mississippi, and the shipment was timed to arrive at San Francisco about the time that the boat sailed. The following is what Mr. Daniels had to say about the shipment.

"During the spring of 1948, Mr. Roscoe Wixson of Dundee, N. Y., wrote us that Dr. John Kung, head of a church Mission at Kiukiang, Kiangsi, China, desired to secure a shipment of queen bees. I suggested to Mr. Wixson that if the bees could go by air the main part of their journey it should be entirely successful. However, he replied that the bees could go by air only to San Francisco, then must travel by boat to Shanghai, and then some four hundred miles by small boat up the Yangtze River to a point bordering on Communist held territory (since overrun by Communist forces) and that the trip would take at least forty-five days. This, it seemed would be an almost impossible task, so we informed Mr. Wixson that we would rather not undertake it. It later developed, however, that the party was very anxious to succeed in obtaining these queens and that a Chinese lady, Dr. Esther Peh, who was at that time visiting in New

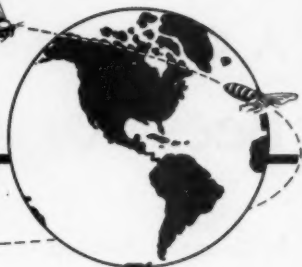
York, would personally take charge of these queens on her return journey. Also the Captain of the boat, the Steamship General Gordon, would do everything possible to care for the package. So, I was asked to attempt the task regardless.

"After much study, a package was designed containing four standard brood combs with ample natural pollen and honey, a small patch of sealed brood (to keep up morale), two pounds of young bees and two refillable water containers. All combs and containers were cushioned in live rubber. An entrance hole was provided so that when the ship was in port for a few days the bees could be taken ashore and permitted to fly. One of our associates, Mr. William Parker, who is a former navy man, contributed the information that there were rooms in the hold of a ship in which the temperature would be much the same as in a bee cellar. Six choice queen bees were then inserted in especially designed cages between the combs. When complete, as photographed, the package weighed forty-seven pounds. Two full pages of instructions were attached and if those instructions could be carried out, there would be no question of live delivery.

"We are proud to have been able to put our experience at long distant shipping to such a good purpose and hope that when conditions of war clear up in this area, we will learn that Dr. Kung's people were able to benefit."

New York

'ROUND THE WORLD



Division of Beekeeping Reestablished in Costa Rica

Eng. don Claudio Vollo G., Secretary of Agriculture and Industry under President Ulate of Costa Rica. Eng. Vollo has re-established the Apiculture services in the National Department of Agriculture.



Orlando Munoz B., Head of the Division and Director of the National School of Apiculture of Costa Rica.



We are pleased to inform our readers that Agricultural Engineer don Claudio Vollo G., a graduate of the University of Louisiana and Secretary of Agriculture and Industry under the Government of President Ulate of Costa Rica, has reestablished the Division and National School of Apiculture of our sister country.

The above mentioned division has been functioning again in the National Department of Agriculture and Professor Orlando Munoz B has again been in charge of it.

Due to the importance which the existence of organizations charged with the welfare and good of the beekeeping industry has for the economy of the country, we learn that Eng. Vollo told the students of

the school that he will lend all his moral and economic support to the apiculture of the country. It can be stated that in the history of Costa Rica, two Secretaries of Agriculture have given to the breeding of bees the true importance that it deserves. First we have in preferred place Eng. don Mariano R. Montealegre Carazo, old beekeeper who founded the Division and the National School of Apiculture, and now Eng. Vollo Guardia who has reestablished the services of beekeeping.

The National School of Apiculture for its part will continue imparting theoretical-practical courses in Elemental and Superior Apiculture, and will adjust its activities to the Rulings and Program with which it was established.





A view of the apiary of Prof. Orlando Munoz B. situated in Judas de Guacimal. At the present time it has 300 double units with an annual production of 15 tons.

Considering the recent volume of the beekeeping industry of Costa Rica which represents an annual production of 400 tons, internal consumption and exportation included, we know that the plan of work of the apicultural organizations is varying enormously with the estimated distribution which may be given same.

With the hope that world markets for honey may become normal, the official organizations of apiculture

of our sister country have had two proposals, within the Work Plan that they have undertaken. The first consisted of the financing and conditioning of a factory for packaging, using tin plate; the second, the installation of apiaries along the Pan American highway which crosses the Pacific region of Costa Rica.

The highway in a not distant future will be usable from the Nicaraguan frontier to that of Panama, and its path will pass localities with

excellent honey bearing flora from 20 meters above sea level upward. The Pacific region of Costa Rica has well defined seasons of winter and summer.

The American Bee Journal welcomes the reestablishment of the official patronage of Apiculture in Costa Rica, and for its sister country as well as for Eng. Volio and Professor Munoz extends best wishes for prosperity and success in their work.



A photograph of Eng. don Claudio Volio G. taken on February 17, 1950 at the apiary of don Ricardo Saprissa in La Rioja de Barranca, Costa Rica.

This photograph shows Sr. don Bruce Manis D., Ex-Secretary of Agriculture in company with the graduates of the National School of Apiculture of 1948. It also shows Eng. don Mariano Montenegro, Ex-Secretary of Agriculture, Dr. Claude E. Kellogg and Dr. D. Spencer Hatch, Head of the Extension Services of the Institute for Agricultural Sciences at Turrialba, Costa Rica. Center of the window, left and right, Eng. Montenegro and Sr. Manis. Center blackboard left and right, Drs. Hatch and Kellogg.





Why Use Honey?

by D. C. Jarvis, M.D.

Dr. D. C. Jarvis, our Vermont research and practicing medical friend, has now such a following that he needs little introduction in this new volume. Some ask-how long he has been working with honey—about twenty years carefully testing and retesting. In this series, "Why Use Honey?" you will want to follow him carefully as he explains the medical framework within which he bases the use of honey.

MEDICINE for many years has used the bacteriological approach when endeavoring to solve clinical problems presented by the patient. In view of the haunting fear of the epidemic it is perfectly logical that this be so. With the coming of bacteriology, medicine became scientific and interest centered almost exclusively around the infectious diseases. Since the advent of bacteriology a number of theories have been presented to explain why sickness comes to the human body. One of these is the theory of infection.

The theory of infection is fascinating. It leads one into a consideration of high grade, low grade and focal infection. It is an easy theory to subscribe to because it is such a positive one with its microorganisms, toxins, serums, vaccines and antibiotics. But as one scans medicine in retrospect it becomes more and more evident that the theory of infection as subscribed to in the early nineties, is receiving less consideration as the one explanation of clinical illness not due to accident or industrial injury. There is a beginning appreciation of a dual role in the production of clinical illness, this role being shared by the status of the body tissues and fluids on one hand and the virulence of the microorganism on the other.

More and more in the study of clinical illness we appear to be turn-

ing to the fundamentals of nature which are ages old and have stood the test of time. These fundamentals tell us that in order to turn seed time into harvest there must be suitable preparation of the soil, seed of sufficient germinating power or root of sufficient strength, a certain amount of moisture, a certain amount of heat and the soil at rest after preparation and planting.

As one observes the laboratory worker one notes he follows these fundamentals of nature in selecting suitable culture medium which must be suitably prepared. The microorganisms being dealt with must have sufficient virulence and a certain amount of moisture is taken into consideration. He provides for a stated amount of heat and after the microorganisms have been added to the culture medium it is placed at rest.

If, then, these fundamentals apply when tilling the soil and working in the laboratory, may they not also apply when having clinical contact with the patient at the bedside or in the office, and explain, in a measure, the reason for his sickness and perhaps point the way to his recovery? At present I feel the soil is more important than the seed, and if it is possible to control the status of the body tissues and fluids one need not worry so much about infestation of the body by microorganisms being changed into infection of the body

by these same microorganisms.

In September 1937, when the late Dr. Weston A. Price, of Cleveland, Ohio, who is internationally known for his research work relating to the cause of dental decay, was in Barre to discuss with me Vermont native types which I have studied for years, I asked him a question. I said, "Dr. Price, you have been all over the world studying primitive peoples in an effort to learn the cause of dental decay. You have studied 27 different tribes in Africa, the bush natives in Australia, the Polynesians living on the islands in the Southern Pacific, the Eskimos in Alaska and the Indians in northern Canada. You have been in Switzerland studying those living high in the Alps beyond the snow line and you have just returned from an extensive trip to Peru where you have studied those living high in the Andes Mountains, individuals being brought to you for study from altitudes as high as 16,000 feet. After all this work, what part do you feel the microorganism plays in the production of disease?" At once, without any hesitation came the answer, "A secondary part." I then said to him, "If the microorganism plays a secondary part what, in your opinion, plays the primary part?" Again, without hesitation came the reply, "It's nutrition, the burden must be placed on nutrition."

(To be continued.)



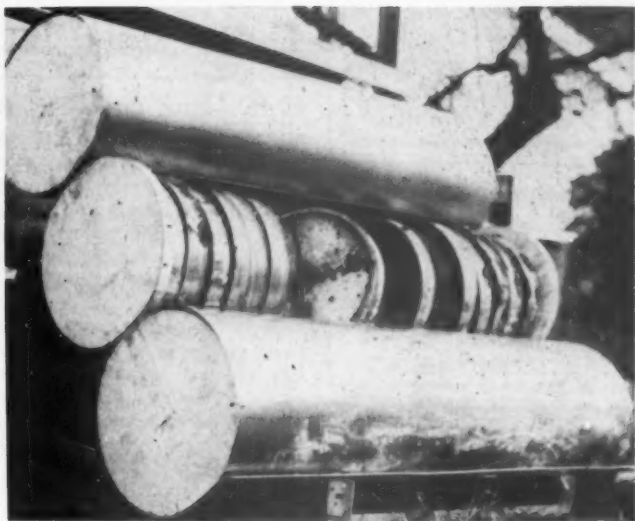
Little Patricia Sauls is a honey customer of J. T. Clark of Mississippi. All of his sales are made at home and most of his crop spoken for in advance.



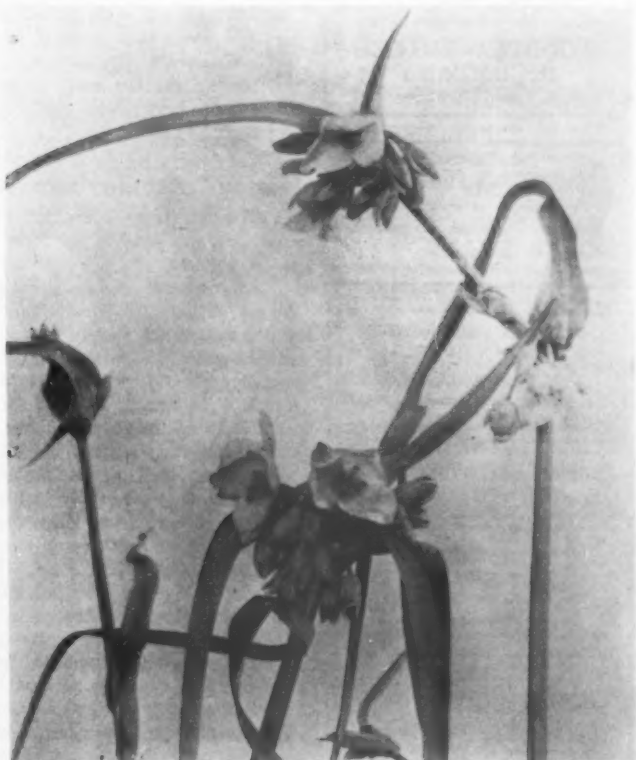
Here is a nice honey sign sent in by A. G. Woodman, who spied it in Florida. It is on a side road, near new white buildings belonging to D. B. Green.



Miss F. Papadopoulos, Johannesburg, S. Africa, sent in this photo of the "beladi" or Egyptian mud hives which are still used in Egypt. In them the bees build circular combs. When there is no honey-sow, the beladi are hermetically sealed with cow dung so that the bees will not wander.



A. H. Schmidt of Minnesota sends this shot of his aluminum hive. Frames are 14 inches in diameter, hive 24 inches long. There is a 3-inch contact between supers.



Tradescantia virginica, the spiderwort, is common on moist prairies. Blooms over a long period with new blossoms each day. Very attractive to bees in early morning.



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Let's Talk It Over . . .

Here's That Little Boy Again—Happy New Year!

He's a very pretty little toddler, little 1952. What shall we do with him? Each year, when he comes, we decide to make a man of him to be proud of, before he matures finally to reach for the scythe of time. He then seems little different from the other old ones who relinquished their reign in the past.

We have never found resolutions of much value. It is so easy to resolve to do something we know we should do; something to change the face of things and make our world over. But, somehow, in the day by day procession, the dream dies and things remain as they were. Perhaps the best way is to try to live each day better than the day before; to grab time in flight, as it were, one determined little grab after another. After all none of the mighty things we are so sure will happen tomorrow come about just as we think they will, and most of the great happenings of the world grew little by little; back of them a steadfast eye and a steady heart. But in performance, step by step, until there it is—the wonderful new event into which went wisdom, heart-break perhaps, hard work surely, and blest is the maker of such things.

So may we each in our own way perform some little well directed deeds that by next Christmas, before another New Year toddler comes along, may rise to bless us in our small path. All the littles from the many may perhaps then add up so we again may say "Happy New Year" and it will be just that—another wonderful opportunity.

Honey from Soybeans . . .

We call our readers' attention to the article on soybeans on another page written by J. H. Davis, chief inspector of apiaries for Arkansas.

Off and on, soybeans have been reported as nectar yielders. Pellett in his "American Honey Plants" lists definite reports of nectar from such widely separated sections as Iowa, Illinois, North Carolina, Maryland and Louisiana. Dr. Milum has traced down purported nectar yields in Illinois and considers them authentic. Alfred P. Johnson, also of Illinois reported a substantial honey crop from the soybean on one occasion.

In our own locality here at Hamilton, recently, two farmers on whose places we had bees located, reported that the bees worked soybeans heavily and they were both of the opinion that the bean crop was increased thereby. Our apiary men were unable to tell whether any nectar had actually come into the hive from that source.

Mr. Davis' summarized findings should enable beekeepers to determine more specifically on soybean nectar yields. The point Mr. Davis makes specifically on varieties and on noticeable advantage where the soybean crop follows one like oats where a leftover fertility may be used, rather than cotton, where a fertilizer cleanup is made, are worthy of study.

We need to know more also of the effect of different soil types on nectar yields, not only with soybeans but with the whole gamut of honey plants.

As Perilous as War . . .

In the "Spotlight," issued by the Committee for Constitutional Government, Senator Harry F. Byrd of Virginia summarizes our present national financial fix. It is the most startling report ever made to the American taxpayer who, unless he does something about it quickly, will be shortly in an even worse fix.

"Between that day in 1789 when George Washington took oath as our first President and April 30, 1945, when Truman inherited the presidency, the United States Government collected \$248 billion in taxes. Between April 30, 1945, and June 30 of this year, the total tax collection was \$260 billion. In six years more has been taken from the American people than all the domestic taxes in the previous 156 years. For 1950 the appropriations were \$50.222 billion; for 1951, \$87.445 billion and for 1952 it is \$94.429 billion; a total of \$232.1 billion. This is within a few billion of our \$256 billion public debt and of our \$265 billion estimated national income. It averages \$77 billion a year.

"Does anyone believe that we can long continue to spend at the rate of a third of our total income? The last budget of the United States was a book of 1312 pages and there is now no reason to expect the next one to be smaller. Congress has lost immediate legislative control over most Government funds and property. Of the 1951 budget only a third came under annual review and control by Congress. This comprised some \$19 billion of military and international expenditures and less than \$5 billion in domestic non-military expense items.

"There can be little reduction in expenditures until Congress regains control over them. Perhaps then tremendous savings could be made in the present over-reaching expenditures. When Congress reconvenes this month, if those of us who consider our present situation serious will let our representatives and senators know we want something constructive done about it, the steady progress toward financial ruin may be arrested. The peril that confronts us in this respect is as great as war itself."

British Honey Jar Standards . . .

The British Standards Institution, of London, has recently instituted through the Ministry of Food standardized glass jars for honey in the ½ pound and 1 pound size with interchangeability of caps.

In our own United States during the exigencies of World War II, standards were initiated for honey jars which had to be necessarily adopted since no other styles were allowed to be made. Previous to that time, there was such a mass of conglomerate sizes of jars as to make it almost impossible to furnish jars in any quantity at a reasonable price. This meant that the large packers were the only ones who were in a position to get a special jar. Even in the so-called standard sizes, the jar lids of one manufacturer did not fit the other.

We are finding a return to these conditions now, although the round jar in the ½ pound, 1 pound, 2 pound and 5 pound sizes is still standard. However, the keystone type jar is coming back and it is, we believe, somewhat more attractive. However, most certainly the beekeeping industry, we believe, would profit by standardization, or at least recommendations for standardization of jars for honey.



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Answers . . .

I am only a beginner in beekeeping with two years' experience. My problem is getting more honey and I would appreciate answers to the following questions:

Should I close the upper entrance in the spring when bees can fly or leave it open all year round? How can I tell the difference between a Caucasian and a Carniolan bee? Which size hive is better, the deep-frame hive or three M.D. small supers used as a hive? How many pounds of honey does a ten-frame deep super hold? What is the best way to store a few supers of honey for spring feed? What is proper placement of honey for winter feed?

Charles Hofmann, Illinois

Use of the upper entrance during a honeyflow is up to the individual. I don't use an upper entrance but many beekeepers do. The upper entrance provides ventilation in winter. I accomplish the same result by a different method. I use a frame the size of the hive made of 1/2 inch boards with three holes bored in the back which are covered with screen wire. This frame is put on the hive just under the lid and over a screen wire cover. The holes allow ventilation. All three are left open in summer and two of them are closed for winter.

Caucasians and Carniolans do resemble each other and both are gentle. Carniolans are usually more gray in color, swarm easily and are great robbers. The Caucasians propolize the hive badly. If you have had both strains in the same yard for some time, and they were allowed to supersede their queens, the two strains are probably mixed by now and hard to tell apart.

The size hive to use is up to the individual. I use standard ten-frame size for brood and food chambers. I leave my strong colonies in the two bodies for winter, with the top hive body full of cured honey and some



honey and pollen in the bottom body. Weak colonies sometimes winter better in a single hive body. Strong colonies wintered in double hive bodies will come out stronger in the spring. For summer manipulation, any size super may be used.

The weight of a deep super will vary from 50 to 75 pounds when full of honey depending on the grade of honey and the way the bees have drawn out the comb.

The honey I store for spring feeding is stacked in supers in a cool, dry place and closed at the top and bottom to keep mice and bugs out. Some sort of fumigant should be used to protect the combs from wax moth.

The proper placement of honey for winter means to leave a frame of empty or partly empty comb in the center of the hive for the bees to cluster on. Full frames of cured honey should be assembled on both sides of the empty frame. If the bees cluster on a full frame of honey their warmth cannot penetrate the honey as it can the empty comb and if the cluster is separated it could mean the destruction of the bees during severe winter weather. All supers should be removed for winter and if the bees did not store enough honey in the two hive bodies the beekeeper should move combs of honey from the supers down into the two hive bodies to provide winter food. If honey is not available, feed the bees sugar sirup early enough in the fall for the bees to

by Frank E. McLaughlin

have time to cure it. Add one 7/10 grain sulfathiazole tablet to each gallon of sirup as a preventive of American foulbrood.

I plan to start package bees in the spring and would like to know what to do if the bees supersede their queen.

James P. Young, Tennessee

In most cases, package bees are satisfied with their queen as long as she is not defective in any way. However, sometimes they do supersede. On first inspection after hiving the package you can tell if the bees have the desire to supersede. They will have drawn out supersedure cells which are found somewhere near the center of the comb. These cells are usually several days old before the bees kill the queen. Some bees are known to raise a young queen and permit the old queen to stay too. Thus mother and daughter are found in the hive together for awhile but the old queen is eventually done away with. However, this happens more often when the bees are superseding an old worn out queen.

If drawn comb is used when hiving packages it will help prevent supersedure. This gives the queen a place to lay at once and the bees go right to work. When only foundation is used to hive the package on, the bees sometimes blame the queen for not laying even though there are no cells to lay in. Bees must have honey to secrete wax to draw out foundation into comb. If they must be hived on foundation and no natural nectar is coming in, they should be fed sugar sirup.

If supersedure cells are cut out soon after being started, the chances are that the queen will be accepted.



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New Book on Bees . . .

Frank R. Shaw and Stanley B. Whitehead, both of the University of Massachusetts at Amherst, are co-authors of a 170-page book with the title "Honey Bees and Their Management." It is a clothbound volume with illustrations, designed primarily for the beginning beekeeper but also filling the need for a manual on beekeeping. Included are discussions of beekeeping beginnings, bee behavior, handling in spring, the honeyflow, the harvest, and fall preparation and wintering. Other subjects treated are anatomy, diseases, queen rearing, spraying, honey and its virtues, honey plants, and pollination in general. There is a good bibliography included and it is a well written authoritative book.

D. Van Nostrand Company of New York is the publisher and the price is \$3.50. The book may be ordered from The American Bee Journal office or direct from the publisher.

Dictionary of Beekeeping Terms . . .

This dictionary is edited by Dr. Eva Crane of the Bee World, with a foreword by Dr. O. Morganthaler. It is a 75-page clothbound book containing some 1500 terms of bee anatomy and beekeeping practice, with smaller space devoted to words concerning honey plants, diseases and honey. The main section lists English terms in alphabetical order with the corresponding French, German and Dutch equivalents juxtaposed. There is an index of terms in the various languages.

Such a book is almost indispensable to the student and foreign reader. The American Bee Journal will be glad to forward orders received for this book at a postpaid price of \$1.00 which will include a Bee Research Handbook.

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**QUEENS
AND
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Utah's Extension Program For Insect Control and Pollination of Alfalfa

"Insect Control and Pollination of the Alfalfa Seed Crop in the Delta Tract, Utah," is the title of a recently issued 12-page mimeographed series, No. 76, Utah State Agriculture College, Extension Service, Logan, Utah. The authors of this publication are George F. Knowlton, Extension Entomologist, and Nathan T. Packer, Special Extension Agent.

Everyone interested in alfalfa seed production, control of harmful insects, the use and application of insecticides, and pollinations, will find this publication interesting, informative, and of practical value.

Briefly summarizing the history of insect control and pollination of Utah alfalfa after 1925 and through 1947, the publication goes into greater detail concerning the extension programs and results observed during 1948 through 1951.

A request was made of the Utah State Agricultural College to hire a special extension agent to work with seed growers and beekeepers, under a general program as recommended by the staff and collaborators of the Legume Seed Research Laboratory. Growers and seed dealers agreed to defray travel expenses, and a special extension agent was hired. The program during 1948 and until June of 1950 was carried out by D. N. Allred, with the balance of the program being conducted by Nathan T. Packer. As a supplement to this report, a report is given of seed yields, as reported by 22 growers, for 1951. This data was collected and prepared by Leon L. Hall who served as a special extension agent in the Uintah Basin. Yields of cleaned seed averaged 579.8 pounds per acre and ranged from a low of 337.5 to a high of 814.5 pounds to the acre. The extreme importance of extension work in bringing about grower-beekeeper cooperation is clearly shown.

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One branch of beekeeping cannot be prosperous without affecting other branches directly or indirectly. None can stand alone. Let us unite in a common effort to put dignity into our profession. It is up to us to establish our own pattern; neither the Government nor any other agency can do it for us.

Too long, many have sat idly by doing nothing constructive, but contrariwise complaining of everything going to the bow-wow. The time has come for us to decide whether we sink or sail. Let us unite all our efforts for the LONG PULL ahead.

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THOS. S. DAVIS

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All Around The Bee Yard

by G. H. Cale

A glance out the window this morning discloses a bright, sunshiny winter day, with considerable snow, and with the temperature close to zero. For the past two days it snowed and then snowed again, and yesterday the temperature was slightly over thirty-two. The bees likely shifter about a bit as it had been mild for two or three days. The clusters which we now hope have reformed, perhaps slightly upward over stores, have tightened again but the hives should be comfortable as they are well banked with snow, often as good packing as that applied by man.

"When the work's all done this fall"—most of us are familiar with that ditty. Ha! When the work's all done this fall? Fall has a habit of

becoming winter without warning. About the first of November a blinding snow fell steadily for almost two days. Roads were no good. Many changes in human plans had to be made. And—the rest of the fall work is now left until spring.

When spring comes, we'll finish. Or will we? I doubt it. I'm almost sure that the best way to do anything is when the need for it arises or when it is planned. Futures are most uncertain and that applies with most of life. It's the day by day, steady, unrelenting carry-on that shows satisfactory results. If it is not that way for you, then you are a better man than I am, Gunga Din.

I hope you have a warm honey house or workshop or basement. If

you can sort out your poor combs, go to it. If you have wax to render do it now. If you have equipment that should be repaired and painted, get at it. You will feel so much better when you have accomplished some of the jobs that there is seldom time for later. (Wish I could follow that advice myself).

There has been so much pessimism among so many beekeepers that it is warming now to find some change in sentiment. Lately there has been an unusual number of large commercial beekeepers visiting us and most of them exude an air of prosperity and a look forward that shows they find their business perhaps as good as any. I like that. It helps me. I have been accused of singing

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the blues, mostly because my marketing has been unwise and my debts heavy. But, unlike many others, at least I never even entertained the thought of quitting. I don't have quite the number of bees I did; perhaps I should have more. One man from Montana, also in debt, says he pulled out of debt in two years, not by keeping fewer bees, but by keeping more. Two crops saw him in the clear.

In my day dreaming, often the hope rises that it may sometime soon be possible to make better use of my bees. I would like to produce honey for firm orders, so much bulk and extracted for one man who is fit to be my marketing agent. In other words his business is selling honey (and often he may also have his own bees); mine is producing honey. If we can get together, I'll be a preferred partner since I will be producing what he wants in the amount he wants, of the kind he wants. A few "partners" like that and I can cut my cloth for next

season accordingly (the Lord willing).

Then too, I'd like some farmer-partner producing seed or fruit, or both, so I can help them with their products for a part of the gain. Wouldn't it be fun (and hard work) to go to the orchard in spring, the honeyflow in summer, and the seed when the crop is off. And don't say that it can't be done. The reason it is not done much is likely to be the same reason I am not doing it. I'm just too content to let things go along in the path I am used to. In other words this dream could be realized if I'd work at it.

While we are close to that idea of producing honey for a particular demand or market, I know one food firm that wants honey each year of a certain flavor and body. They demand a mixed honey, part from fall sources and part from clovers. Most of us would not be willing to put our bees where approximately the right amounts of each kind of honey could be obtained; blended for the customer; delivered in new cans;

cleaned through bolting cloth or screen; entirely liquid, with a water content just so. How many of us would serve such a customer, year by year? It so happens that this one company has just signed a contract for 36,000 pounds for 1952. This year they paid 12c for the honey. Don't ask me, since I can't break a confidence; just believe me that it is so; and darn it, it's not I that got the order.

It's a great America we live in. We are so big, so rich, so complacent, so powerful that other folks don't interest us much. Here we eat up the magnificent amount of 1.78 pounds of honey a year (that is if every one gets the right share. At home we eat from sixty to one hundred pounds a year). Meanwhile, Canada, near enough for us to be well aware of this nation as an interesting neighbor, eats from three to four pounds of honey per person each year. And that is because, in Canada, the beekeeper is on his toes. Also honey in the bulk container up there is now worth about 14c.

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George W. Bohne . . .

Occasionally we find a person in a group who gives verve to the meeting and skillfully raises a question to create that discussion on which any good meeting at least is premised. George Bohne, of Luling, Louisiana was such a man. He and his delightful wife were present at most of the southern conferences and other southern meetings in the last 25 to 30 years. They added a charm which it is hard to imitate or replace.

Mrs. Bohne died several years ago. Mr. Bohne passed away on December 4, 1951, at the age of 79 years. His has been an active and useful life and we who knew him are the better for the friendship. Louisiana beekeeping likewise profited by his teachings. Bohne wrote for the bee magazines for many years.

New Cornell Bulletin . . .

"Beekeeping," a 20-page bulletin by E. J. Dyce, was issued in August, 1951 by the College Extension Service of Cornell University at Ithaca, N. Y.

Sources of information and study and beekeeping organizations are listed, followed by a discussion of practical management including starting with bees, equipment, handling, diseases and pests, seasonal management, queen rearing, and so forth.

There are approximately four thousand beekeepers in New York with 175,000 colonies producing 10 million pounds of honey and 175,000 pounds of beeswax annually.

Nosema

From the British Bee Journal comes the statement that the British Board of Trade has refused to permit the importation of bees from the United States. The reason is that in the number of samples examined for disease, over fifty per cent of them were found to have Nosema.

A Gift for His Majesty . . .

During the recent illness of His Majesty, the King of England, he was presented with a gift of English honey to hasten his convalescence. A group of beekeepers including C. C. Tonsley, editor of the British Bee Journal, delivered the gift to Buckingham Palace. This was London honey, produced by bees living on the roof of the British Bee Journal office next to Dr. Johnson's house in Gough Square.


1952 Price Support Program

At the invitation of the Department of Agriculture, fourteen from the beekeeping industry were in Washington, December 10 to 12, 1951, to discuss with officials conditions within the industry, the operation of government programs to date, and to make suggestions and requests relative to the 1952 program. Present in Washington for the conference were Clarence L. Bensen of Arizona, Walter Sagunsky of Montana, Clarence Langley of Minnesota, Howard Schmidt of Michigan, Henry Schaefer of Wisconsin, Glenn Gibson of Oklahoma, Henry Hanson of Iowa, E. H. Adee representing Nebraska and Wyoming, Nelson Ross representing Texas, the American Bee Breeders' Association and the Southern Conference, Burel Lane of New York, Roy A. Grout of Illinois, M. D. Myers, Jr. of Virginia, Mr. Orr of Ohio, and Glenn O. Jones of the American Beekeeping Federation.

Representing some 25 states and approximately two-thirds of the total honey production in the United States, the group was unanimous in asking for a loan and purchase-agreement program at the producer level, a support level of 75 per cent of parity, one price level country-wide, on-the-farm loans for producers needing additional warehouse facilities, and that those participating in the export and diversion subsidy programs be required to pay the support level for all honey purchased by them. A strong case was presented that the minimum support level is not sufficient to maintain beekeeping, and that the present program is resulting in too much honey moving to the government and out of normal channels of marketing.


The case of the beekeeping industry was received by U.S.D.A. officials with sincere interest, and a complete record of the meeting will be available in the near future. No decision on the 1952 price support operations will be made by the Department until sometime after the Dallas meeting of the Federation in mid-January, but it is the desire of the Department to issue the 1952 program well in advance of the beginning of the 1952 marketing season, April 1, 1952.

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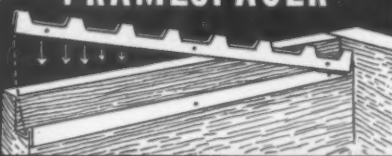
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City State

Crop and Market

by M. G. Dadant

How Is Honey Selling?

There has been an improvement in the sale of honey, although in most instances sales are still considered from slow to fair. However, we believe there is a sale improvement over a year ago and no doubt former channels of trade are being re-opened quite satisfactorily. Sales have been especially good throughout the Central West and across the South, and pretty generally sales reflect a good attitude. In the Canadian provinces, sales have been exceptionally good, no doubt encouraged by the efforts of the Canadian Council which is especially to be commended.

Per Cent Sold

Here again we are quite agreeably surprised at the amount of honey that is already sold, ranging from 30 per cent to as high as 90 per cent out of the hands of producers and in many cases sold. It may not be an unmitigated blessing because in a number of instances honey has been sold through the government programs, not leaving sufficient in many communities to take care of local demands. This could no doubt have been obviated by a loan plan on honey whereby the individual producer could have obtained loans closeby and then used up some of the honey for local sales whenever the individual supply ran out. Again we find that the Canadian provinces are as well situated or better than our own states in the amount of honey of the new crop which has already been disposed of. We are inclined to think that perhaps the estimates put out by the government on the total crop of honey in the neighborhood of 250,000,000 pounds has been exaggerated or that the government perhaps has not taken into consideration some reduction in the number of bees available as will be mentioned later on.

Honey Sufficient to Supply Year Round Demand

In the eastern states and in the Central West, there seems to be a feeling that local suppliers have kept sufficient honey to take care of the year round supply. Farther west and in the South it does look like there would be a shortage of honey and this applies pretty much

over the South excepting in the state of Florida where there has been an excess and no doubt will be as long as the heavy production noted in the past two years keeps up. It is in the prairie states, however, that most reports come that there will be insufficient honey and to some extent this applies also to California where heavy sales were made under the government programs.

Honey Prices

No change in jobbing honey prices particularly. The prices seem to follow pretty closely the support price of 10.1 cents for white and approximately 1 cent less for amber. On white honey, some are being paid as high as 11 and 12 cents f. o. b. shipping point, with the general run of about 10½ cents to 11 cents.

In the Canadian provinces, the prices appear to be from 14 to 16 cents for white and 12 to 14 for amber honey.

Very little bulk comb is being purchased now for repacking, but such sales as are being made are on the basis of approximately 20 cents per pound, with comb honey in sections running from \$7.20 to \$9.50 per case.

Reduction in Colony Numbers

The question as to whether or not beekeepers are reducing their number of colonies is answered yes and no. In the case of beekeepers who have been doing most of their work themselves, or have fewer colonies, the answer is pretty generally no. On the part of large producers, however, who have to hire help and are faced with other expenses in out-ward operations, there has been a general tendency to reduce colonies or at least not to make up losses, or in the third place to reduce numbers by culling out all combs and running fewer colonies which can be operated by the owner except for a short time during extracting seasons.

This is not entirely the rule, because in the southern areas there is no tendency to reduce and in many cases the tendency is to in-

crease operations, largely because of the influx of extra nectar from the vetch, crimson clover, and Hubam clover which are making additional production even though the Hubam this year was a partial failure.

It is in these southern areas also that the desire for more bees has been noted on account of the necessity for pollination. Similarly, this is the case in some of the western sections, particularly California, where there is a decided tendency to increase colonies.

One report comes from Oregon that there is the possibility that there may be a decided reduction next year on account of the fact that the O.P.S. has been investigating the increase in rental price on colonies and is reported to be inclined to "crack down" on any prices quoted above the 1950 rental charge. This has provoked such indignation on the part of beekeepers who are hard put to make a profit that many are talking of going completely out of the pollination business.

In the Canadian provinces, there is a general tendency to increase over the 1949-50 numbers, not particularly through the purchase of extra equipment but merely by filling up old equipment which had been left vacant during the slump of the market in 1949-50.

How Much Reduction

The amount of reduction depends entirely upon the individual. Reports are as high as one-third to one-half the colonies being dropped out of production. In many other cases, however, it is the desire to sell out to someone else rather than continue on the present basis, or to lease bees, or not to replace losses.

We believe as one southern reporter states, however, that much of the loss is being made up by new men going into the business and particularly by those interested in pollination. Pollination is catching on much better in the West and South than in the East and Central South, or rather it is attracting the seed growers' attention to the point where bees are demanded. Should the tendency to a reduction in colonies continue, it appears that very soon it is going to have a decided influence on the pollination of our various legumes, vegetables and fruits.

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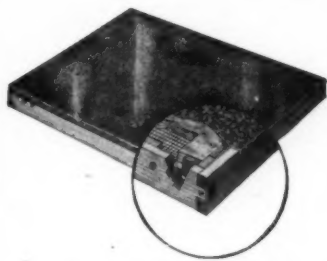


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